FABRIQUES DE TABAC REUNIES SA

RESEARCH AND DEVELOPMENT

MONTHLY REPORT

Strictly Confidential

JUNE 1981

Distribution:

A	Messrs.	H. Maxwell (2)	A	H. Gaisch
		R.W. Murray		J. Guyot
		J. Gibson		M. Häusermann
		G. Karandjoulis		C. Jeanneret
		P. Stolt		F. Lopes
		H. Böckle		J. Mandiratta
		J.B. Boder		I. Marcovitch
		W. Fink		U. Nyffeler
		H. Friedrich		D. Schulthess
				J.M. Villard
B		H. Brugger	B	H. Fauville
		D.R. Gatland		P. Francis
		J.W. Osborne		A. Read
		H. Schildwächter		W. Tessendorf
		E. Stoop		W. Tschudin
		D. Zelkowitz		G. Voelkl
				E. Grossen
C		W.G. Lloyd	C	[redacted]
		F.E. Resnik		W.A. Farone
		H. Wakeham		W.F. Gannon
		R.B. Seligman		L.F. Meyer
D		W. Grünbaum	E	A. Peier
				R. Suter

0001442266

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

LIST OF SUBJECTS COVERED

I. RESEARCH

1. Special Events
2. Biotechnology
3. Chemical and Analytical Services
4. Special Projects

II. PROCESS DEVELOPMENT

5. Nitrate Reduction
6. Pilot Plant Operations
7. Reconstituted Tobacco
8. Unit Operations
9. Special Projects

III. PRODUCT DEVELOPMENT AND QUALITY ASSURANCE

10. Cigarette Development
11. Product Development Laboratory
12. Material Development
13. Tobacco Studies
14. Flavour Development
15. Material Testing
16. Cigarette and Smoke Analysis
17. Q.A. Analytical Services
18. Special Projects

IV. MISCELLANEOUS

19. Specifications
20. Process Assurance
21. Instrumentation and Process Automation
22. Documentation and Library
23. Patents
24. Legislation

Key to Distribution:

A. Complete Report
B. All except Research Report
C. All except Special Projects Research and those reports which might interfere with patent considerations
D. Subject No 9, 12, 15, 17, 18, 19, 21, 24
E. Subject No 10, 12, 15, 17, 19, 21

0001442677

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

TABLE OF CONTENTS

Subject	Title	Author	Page
2	Biotechnology	Schulthess-D.	1
3	Salamander II	Murray-M.	3
	Laundryman	Piadé-J.-J.	4
	Rosa	Murray-M.	6
	Analytical Investigations	Genoud-Y., Lecoultre-E., Moser-F., Murray-M., Piadé-J.-J.	7
4	Agricultural Chemicals	Speck-M.	11
	Fiat	Genoud-Y.	14
5	Nitrate Reduction by Controlled Fermentation	Ruf-C.	17
	Project Lear, Cigarette Prototypes	Borgognon-D.	19
6	Pilot Plant Operations	Lüthi-N.	20
10	Cigarette Development 1	Singer-Z.	22
	Cigarette Development 2	Frattolillo-A.	28
	Cigarette Development 3	Nagel-P.	33
	Cigarette Development 4	Toimil-R.	37
	Cigarette Development 5	Du Bois-J.-H.	40
12	Material Development	Erkohen-E.	41
13	Tobacco Studies	Joseph-L.	45
14	Ingredient and Flavour Development	Fatton-J.-P.	51
15	Material Testing	Balliger-P.	55
16	Cigarette and Smoke Analysis	Senehi-F.	57
21	Instrumentation and Process Automation	Thévoz-M.	59
24	Legislation	Fink-W.	61

0001144268

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : BIOTECHNOLOGY

PERIOD COVERED : MAY 18 - JUNE 16, 1981

WRITTEN BY : Schulthess.-D. (DIS)

GLUCOSE : NITRATE RATIO (1)

As was mentioned in the previous Monthly Report, the sugar to nitrate ratio, that was determined to be 36.9, could be lowered to 25.8, without adversively affecting the denitration. This trial was repeated, using only phosphoric acid to maintain the pH, in order to avoid an organic acid being used as a carbon source. The result could be confirmed. This means that 30% less sugar is necessary to denitrate totally this particular stem extract. Trials are currently being carried out in order to determine the reason for this reduced glucose consumption.

To do this two main parameters are being checked :

1. Dilution rate : The previous glucose : nitrate ratio of 36.9 was determined at a dilution rate of 0.1 hr^{-1} and the new results were determined at a rate of 0.22 hr^{-1}.

2. Nitrate concentration. The previous extract had a nitrate nitrogen concentration of between 1000 and 1500 ppm, whereas the new results were obtained with an extract of 500 ppm.

STRIP-EXTRACT DENITRATION (2)

Some problems were encountered with the denitration of strip-extract at higher dilution rates (3,4). A special characteristic of a strip extract is that nitrate- and ammonia-nitrogen are present in about the same quantity.

In order to determine whether the two different nitrogen sources affect the dilution rate and thus the efficiency of the process, a continuous denitration was carried out using a synthetic medium (1% yeast extract without amino-acids and ammonium sulfate and 4% glucose) with equal amounts of ammonia and nitrate nitrogen (540 ppm each).

00014269

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

No problems were encountered up to a dilution rate of 0.28 hr^{-1}. It may be concluded that the problems with strip-extract are most probably not due to the presence of ammonia.

At the present time tests are under way in order to determine the influence of the strip extraction temperature on the denitration of strip-extract.

REFERENCES

(1) Berney-J., Notebook 800802

(2) Hofer-M., Notebook 810302

(3) Schulthess-D., Monthly Report, Biotechnology February 1981.

(4) Schulthess-D., Monthly Report, Biotechnology March 1981.

Schulthess

DIS/jig JUNE 24-1981

0001442270

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : SALAMANDER-II

PERIOD COVERED : APRIL 17 - JUNE 16

WRITTEN BY : Murray-M. (MUM)

EQUIPMENT

Delivery of HPLC equipment is expected within 2 weeks.

The electrostatic smoke trap has not yet been prepared by the workshop.

MUM/jig JUNE 19 1981

0001442771

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : LAUNDRYMAN

PERIOD COVERED : MAY 18 - JUNE 16

WRITTEN BY : Piadé-J.-J. (JJP)

A series of filler modifications have been initiated on uncased MLF blend. Corresponding sets of cigarettes were hand-made to assess CO yields (MS and SS).

In a preliminary experiment, the validity of the method was checked by comparing the CO yields of factory-made (ØS-B-TOT) cigarettes with the yields of cigarettes hand-made from the same tobacco blend, with the same paper and filter material.

Two sets of cigarettes were made with RTD selected filters, matched to that of the reference cigarette filter.

The first set was made to approximately the same tobacco weight per cigarette as the reference, and RTD selected (± 1 mm H_2O).

The second set was made to the same RTD (and higher tobacco weight) as the reference.

The data seem to point out that there is no difference, as far as CO yields per gram of tobacco burnt are concerned, between hand-made and factory-made cigarettes provided that all materials, geometrical parameters and RTD are kept constant.

Based on these results, two sets of cigarettes are being made from hot water extracted tobacco, on one of which the extract has been re-sprayed (1). Further study should involve fractionation of the extract or sequential extraction and re-sprayings.

Investigations on salt casings have been started on otherwise uncased MLF blend. Analytical work is underway.

REFERENCES

(1) JJP Project Presentation April 25, 1981.

JJP/jig June 19 1981

0001442772

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

	Ref.	1	2
RTD ($mm\ H_2O$)	125 ± 1	103 ± 1	126 ± 1
Tob. Weight (mg / cig)	755	730	825
CO ms (mg / cig) ± s. dev.	12.8 ± 0.8	12.9 ± 0.9	13.9 ± 0.4
CO ss (mg / cig) ± s. dev.	55 ± 7	53 ± 3	60 ± 4
CO ms (mg / g tob. burnt)	18.7	19.5	18.6
CO ss	81	81	81
Puff number	8	8	10

000144273

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : ROSA

PERIOD COVERED : MAY 17 - JUNE 16, 1981

WRITTEN BY : Murray-M. (MUM)

OBJECTIVE

The objective of Project ROSA is to produce cigarettes with reduced mainstream and sidestream nitrosamine delivery.

EXPERIMENTAL

In order to study the influence of nitrosation inhibitors, cigarettes have been prepared from burley tobacco (Project SPOTLESS, ØS-B-BU). The additives used were a cocktail of reducing sugars (sucrose, fructose and glucose), sorbic acid, BHA (butylated hydroxyanisole), vanillin, BHT (butylated hydroxytoluene), cysteine, sorbic acid mixed with potassium sorbate and potassium bisulfite. These cigarettes are currently being analysed for nitrosamine sidestream deliveries.

In order to continue and confirm earlier findings (1), cigarettes have been prepared (MLF 21 MUM 1) with 18 mm CA filters loaded with 0 to 10% triacetin. They will be analysed for mainstream nitrosamine deliveries.

FUTURE PLANS

Cigarettes should be prepared for mainstream nitrosamine deliveries using less volatile plasticizers than triacetin. The possibility of fibre cross section and denier should also be investigated.

REFERENCES

(1) Moser-F. PME Monthly Progress Reports - June, October, November 1980.

MUM/jig JUNE 18 1981

Michael Murray

0001442274

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : ANALYTICAL INVESTIGATIONS

PERIOD COVERED : MAY 18 - JUNE 17, 1981

WRITTEN BY : Genoud-Y. (YVG), Lecoultre-E. (ETL), Moser-F. (FMO), Murray-M. (MUM), Piadé-J.-J. (JJP)

ADSORBENTS

The main physical parameters of the charcoal (type: mineral charcoal) used for cigarette Helikon (Hungaria) were determined (1) : Specific surface 215 m^2/g, pore volume 0.37 cm^3/g, pore radius 19.4 ± 1.0 A, mesopore volume 0.16 cm^3/g, micropore volume 0.21 cm^3/g.

The adsorbent Diatomite (manufacturer : Wüthrich-Yverdon, Switzerland), previously studied in powder form (2), was reinvestigated in particulate form (diameter 1-3 mm) (3). The organic gas-phase, NO and CO are not retained by the adsorbent. 15% retention of the organic gas-phase and no retention of NO and CO was obtained after breaking the particulates into small particles of 0.5-1 mm granulometry. For taste evaluation several cigarettes with Diatomite in the filter were prepared and are presently being tested.

CF IN COMPETITIVE BRANDS

West Germany

With regard to the special permissions for CF recently granted to BAT and BRI in Germany, the main brands of BAT (HB, Lord Extra, Krone, Kurmark, Kim, Pall Mall NF, Benson & Hedges, Kent de Lux, Prince Denmark) and BRI (Lux, Peer 100, Windor de Lux, Dunhill International) manufactured during the period March 1981 through May 1981, were analysed for CF. None of the brands contained CF (4).

Switzerland

Caballero F and NF, two new brands, both manufactured in the Netherlands by Laurens-Rothmans, were found to contain 11 respectively 14 ppm of CF (5).

0001442275

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

TRIACETIN

Two triacetin samples submitted by QC (6) were extensively investigated by applying different analytical techniques.

Sample A : Triacetin used in Bergen op Zoom (ex Eastman). MLF produced with this triacetin were not accepted by panel decision.

Sample B : Triacetin from FTR was sent to Bergen op Zoom for tests. Cigarettes were considered acceptable. The origin of both triacetin samples was the same i.e., both are from the same Eastman central storage tank in Rotterdam.

$(GC)^2$: Chromatograms of A and B are absolutely identical.

Pyrolysis GC : Pyrolysis of the samples at 200 to 600^0C/20 msec. (GC Packard 427, column 1.5 m x 2 mm, OV 17 (5%), isotherm 220^0C) did not show any difference between the samples.

HPLC : Chromatograms obtained from both samples on RP 8 (25 cm/10 µ) with CH_3CN 27% / water 73% at 35^0C are identical. No high-boiling oligometric materials were detected.

TLC : Investigations on normal and reverse phase silica gel using a variety of solvent systems and visualizing agents failed to reveal any difference between the two samples.

pH : Measurements of the aqueous extract of triacetin did not reveal any free acidity in either sample.

Metals : The solutions were analysed by plasma emission spectometry. Seven parameters were selected for quantitative measurement. Results are as follows (in mg/l):

	Na	Zn	Pb	Fe	Ni	Cr	Sn
Sample A	34	1,8	1,1	1,6	0,3	0,2	17
Sample B	45	1,2	0.7	4,1	0,3	0,7	17

The differences between the samples do not appear significant.

000144276

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Refractive Index (22^0C)	:	Sample A 1.43425 ; Sample B 1.43419 The difference between the samples is insignificant.
Karl-Fischer	:	The water content of Sample B (0.17%) is slightly higher than that of Sample A (0.10%).
IR Spectroscopy	:	The IR spectra of Samples A and B are identical between 500 and 3500 cm^{-1} but show for sample B a more intensive v O-H band at 3600 cm^{-1} (higher water content.)
Thermochemical Methods	:	Differential scanning calorimetry failed to reveal any differences between the two samples. On cooling the samples the glass transition point was identical in both cases. The samples did not crystallize on further cooling (-70^0C), but remained in the glassy state. This prevented melting point determinations.

Results of LC- (using infrared or refractive index detection) and headspace analysis are still pending.

N-NITROSAMINES

Four brands from UK, Rothmans KS, John Player Special, Benson & Hedges and Embassy No. 1 KS, were analysed for DMN and NPY. Values found are between 147 and 225 ng/cig. for DMN and 40 to 66 ng/cig. for NPY (7).

NNN, NATB and NNK, as well as DMN and NPY, were analysed in 12 tobacco extract samples and in 7 additives from Project LEAR (8). Amounts of tobacco specific N-nitrosamines found in extracts are within the ppb-range. DMN and NPY were not detected (9).

WS-14

The determination of the Threshold Odor Value in sidestream smoke of WS - 14 has been requested by R.M. Ikeda, PM Richmond.

The concept of simultaneously smoking both control and test cigarettes in closed hoods has been discussed with Ikeda. A test panel should evaluate the smoke samples with simultaneous GC analysis of WS - 14 to determine the threshold odor value.

The modifications of existing equipment required to carry out this work are relatively minor and have been requested from the workshop.

0001442277

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

OTHERS

Routine analyses were performed on potassium, calcium, magnesium, phosphate and sulfate in 29 samples submitted by Biotechnology.

REPORT WRITTEN

Genoud-Y. "Triacetin and Triethylene Glycol Diacetate in Filter Plugs by Capillary Gas Chromatography" Analytical Method, June 1981.

REFERENCES

(1) Verbal request from Pittet.-M. to Genoud.-Y.

(2) Genoud.-Y. PME Monthly Progress Report, April 1981

(3) Memo from Krasna.-B. to Genoud.-Y., March 23, 1981

(4) Memo from Lecoultre.-E. to Singer.-Z., June 18, 1981

(5) Memo from Lecoultre.-E. to Nagel.-P., June 18, 1981

(6) Memo from Widmer.-A. to Fink.-W., May 13, 1981

(7) Memo from Fink.-W. to Gaisch.-H., June 19, 1981

(8) Request from Ruf-.C to Moser.-F., May 25, 1981

(9) Memo from Fink.-W. to Ruf.-C., June 22, 1981

WAF/jiq JUNE 25 1981

Fink-W.

0000144278

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : AGRICULTURAL CHEMICALS

PERIOD COVERED : MAY - JUNE 1981

WRITTEN BY : Speck-M.

ROUTINE ANALYSIS

Number of samples analysed for pesticide residues in May/June :

Organochlorines	74
Organophosphorus	74
Methamidophos	8
Dithiocarbamate	71
Maleic Hydrazide (MH-30)	75

NEW ANALYTICAL METHODS

Maleic Hydrazide

Work on quantitation of maleic hydrazide by gas chromatography after derivatization has been continued (1). The following analytical procedure involving hydrolysis of maleic hydrazide glucoside, extraction of maleic hydrazide with diethyl ether, derivatization with dimethyl sulfate to 1-methyl-3-methoxy-6-pyridazinione and quantitation by gas chromatography, has been prepared :

5 g of tobacco are digested with 50 ml of 2N HCl at 90-95^0 for 2 hours. The mixture is centrifuged and an aliquot (15 ml) of the supernant extracted with 50 ml of diethyl ether in a liquid-liquid extractor for 8 hours. The diethyl ether is evaporated and the residue treated with a mixture of a saturated solution of K_2CO_3 (500 µl), methanol (200 µl) and dimethyl sulfate (100 µl) at 70-80^0 for 30 minutes. The methylated product is extracted with 1 ml of ethyl acetate and chromatographed on 10% Apiezon L + KOH on chromosorb W-AW DMCS

0001142279

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

80-100 mesh (column 2 m x 2 mm i.d., glass) at 140-200° / 4° pro min. using N-FID detection. Detection limit is approx. 2 ppm of maleic hydrazide on tobacco (Fig. 1). Work will be continued.

REFERENCE

(1) Speck-M., PME Monthly Progress Reports July and October 1980.

MS/jiq JUNE 24 1981

0000144280

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

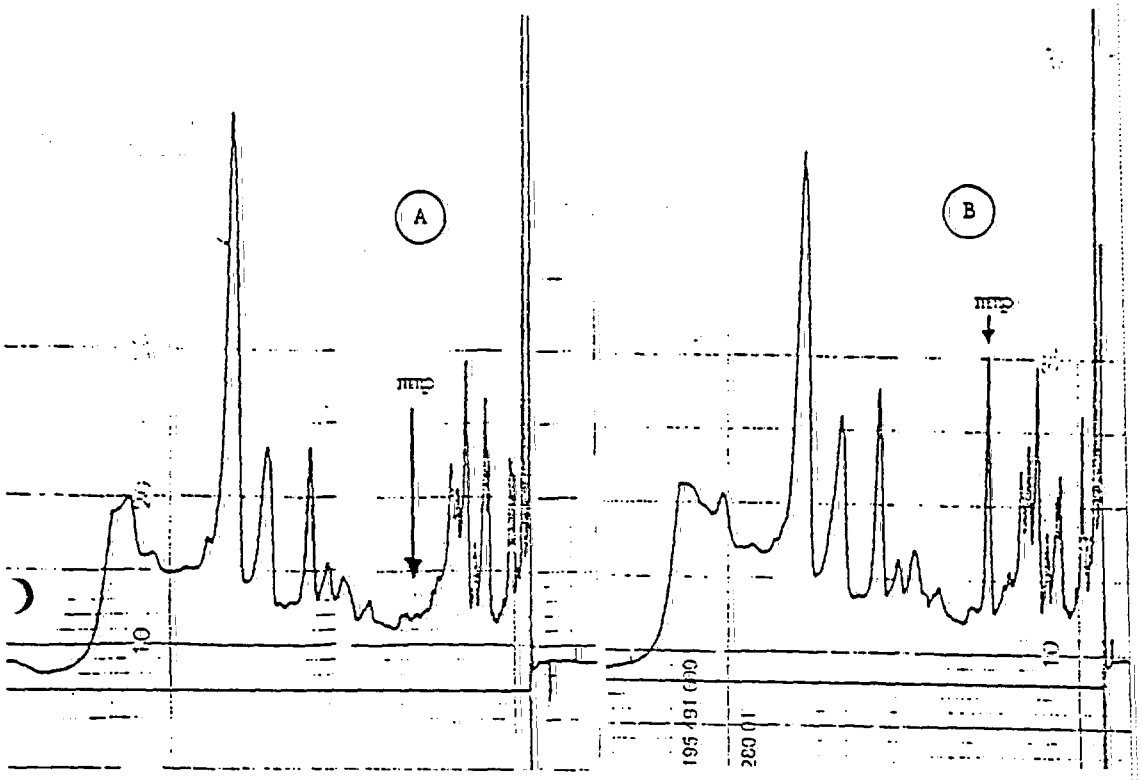


FIGURE 1

GAS CHROMATOGRAMS OF TOBACCO SAMPLES

A : control (untreated) sample
B : sample spiked with 6 mg/kg maleic hydrazide

mmp: 1-methyl-3-methoxy-6-pyridazinone

0001144281

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : FIAT

PERIOD COVERED : APRIL 18 - JUNE 16, 1981

WRITTEN BY : Genoud-Y. (YVG)

The objective of Project FIAT is to determine the retention of selected components of cigarette smoke by filters, filter additives and adsorbents and to investigate new and old filter additives by using new methods. The objective is to obtain maximum information on adsorbents which could be directly used by the Product Development Department.

The only data we have at present concern the porosity, the specific surface and the granulometry of adsorbents. In the near future the following data will be measured :

- retention of the main components of the organic gas-phase
- retention of NO and CO
- retention of HCN, nitrosamines

A selection of existing adsorbents based on their physical data, will be studied at the same time as new products.

NEW DEVICE FOR GAS-PHASE ANALYSIS

The method for quantitative analysis of the gas-phase of cigarette smoke was explained in a previous Report (1). This method uses the technique of the split mode $(GC)^2$. Only a small part of the sample is injected in the column and in this particular case the gas chromatograph works at its limit of sensitivity. This is particularly constraining when a very diluted gas phase is analysed. To avoid this problem, a new device has been designed which allows the complete injection of the sample (splitless mode) without modification of the resolution.

This new system is based on the condensation of the sample in a small quartz tube plunged into liquid nitrogen. Cooling traps have already been used in the past, but always led to modification of the gas phase. By combining the small diameter of the tube (0.2 mm) with the inertness of quartz, it is possible to trap 0.5 to 2 ml of gas phase without changing

2000144282

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

its composition. The liberation of the trapped compounds is performed by heating the flask of the tube, followed by direct on-column injection.

The attenuation is multiplied by a factor of 10 and the reproducibility is equal to that obtained with the previous method.

EFFICIENCY OF THE ADSORBENT

The first application of the system described is the comparison between the organic gas phase of 2 cigarettes, one with a filter containing charcoal and one with a filter containing pumice stone.

- cigarette : MAE without dilution by the filter

- adsorbents: charcoal : 80 mg coconut (Sutcliffe)
  pumice stone : 80 mg

The cigarettes had the same RTD and were smoked according to the Coresta norms.

The following table gives the percentage of retention for the charcoal; the pumice stone has a value of 0%.

Compounds	% Retention
Acetaldehyde	61
Propionaldehyde	66
Acrolein	72
Isopren	71
Acetone	69
Furane	72
Methyl ethyl ketone	69
Benzene	58
Acetonitrile	60
Toluene	52

This short study proves that the method is applicable.

0001144283

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

CONTINUATION OF WORK

Development of a general method to test all adsorbents under identical conditions.

Determination of the adsorbents which seem to be the most interesting as regards their physical properties.

REFERENCES

(1) Genoud-Y. "Analysis of the Gas Phase of Cigarette Smoke by $(GC)^2$ - Technical Report. February 1981.

YVG/jig JUNE 24 1981

0001144284

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : NITRATE-REDUCTION BY CONTROLLED FERMENTATION

PERIOD COVERED : MAY 21 - JUNE 20 1981

WRITTEN BY : Ruf-C. (CLR)

---

1. TRIALS

1.1. NINO Trial 67

Denitrated RL-sheet was produced in the pilot-plant in Richmond with the material treated in Neuchâtel during NINO trial 67 (1). We received 220 kg of denitrated RL-sheet and 113 kg of base-web. They will be stored in Onnens and in the pilot-plant until they are used in test cigarettes. TLA are in progress, but first analyses show a NO_3-N content of 0.04% DWB in the final sheet.

1.2. LEAR Trial 6

For this trial, which was run from May 18 to 22, the usual Marlboro Burley blend was replaced by selected top-leaves (tips) as feedstock.
Extract generated at 80°C in the Rotocell contained a nitrate and ammonia-nitrogen content of 2.1 g/l split into the unfavourable ratio of 3/4 NH_3-N and 1/4 NO_3-N.
After 24 hours at a dilution rate D of 0.1 h^{-1}, the fermentation was run at D = 0.2 h^{-1}. Almost instantly, residual nitrate appeared in the fermented extract. The denitration remained insufficient until the end of the trial, in spite of the fact that the dilution rate was lowered again to 0.1 h^{-1}. An infection was already detected in the fermenter a few hours after the end of the batch.

1.3. LEAR Trial 7

LEAR trial 7 has been running since June 15. Its objective is to repeat the successful denitration of LEAR trial 5 (2), but in the 750-l fermenter. Therefore, the extraction was carried out at low temperature (20°C) and the extract was fermented first at a dilution rate of 0.1, then 0.15 and finally at 0.2 h^{-1}. Despite a small infection detected by microscopic examination, total denitration of the extract was achieved for 3 days. However the pH was lowered to 4.5 in order to avoid the growth of the infection. Since the morning of June 18, the acid consumption dropped very quickly and no more acid was used for the last 34 hours of this trial's first week. Up till now, no suitable explanation for this has been found. After 20 hours of continuous running without addition of acid, nitrates appeared in the fermented extract.

0001144285

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

This might be due to the lack of phosphates which are usually added by means of a mixture of acids. When the fermenter was cooled down for the week-end, about 250 ppm of NO_3-N remained in the extract. The trial will be extended until June 26.

2. CIGARETTES

Three new cigarettes were produced during the period covered (3).

3. PILOT-PLANT

See monthly report : "Pilot-Plant Operations" June 1981 by N. Lüthi.

4. REFERENCES

1. Ruf-C Monthly Report (March 1981)
2. Ruf-C Monthly Report (May 1981)
3. Borgognon-D Monthly Report (June 1981)

CLR/sde/JUNE 23 1981

0000144286

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : PROJECT LEAR, CIGARETTE PROTOTYPES

PERIOD COVERED : MAY 21 - JUNE 22

WRITTEN BY : Borgognon-D. (DIB)

During the period of the report, one control cigarette and two trial cigarettes were made according to plan. All the tobaccos used for these cigarettes were cut with a KTF machine.

1. Control Cigarettes

1.1. LEAR O-17-5

This cigarette was produced with 100% treated Burley. The Burley tobacco of this cigarette consisted of samples which were taken during the whole period of production, taken at the outlet of the flavouring drum (1 + 2).

2. Trial Cigarettes

2.1. LEAR 2-17-4

The cigarette was manufactured with 100% extracted, fermented and re-applied Burley, which had undergone Burley treatment (1 + 2).

2.2. LEAR 4-17-3

For this cigarette, 50% of the tobacco was extracted, fermented and re-applied Burley. The other 50% was untreated Burley tobacco. Neither of these 2 tobaccos had undergone Burley treatment (1 + 2).

3. Trial Concerning the Drying of Extracted Strips

A small trial of drying was performed in the Proctor & Schwartz. A small quantity of extracted Burley strips was put in a small separate tray passing through the installation together with the other tobacco. The moisture before the trial was 66%. After passing through the installation 6 times, it had only 17% moisture. The aspect of the strips was satisfactory (2).

4. REFERENCES

1. Ruf-C "P-V de la séance de planification du projet LEAR" (March 4 1981)

2. Borgognon-D Notebook 791104 p 44 - 47

D. Borgognon

DIB/sde JUNE 24 1981

0001442887

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : PILOT-PLANT OPERATIONS

PERIOD COVERED : MAY 25 - JUNE 19 1981

WRITTEN BY : Lüthi-N. (NIL)

---

1. EQUIPMENT

1.1. Extract Clean-up

A rented Sweco vibrator has been tested for cleaning up the extract at the outlet of the extractor.
Trials are underway where the extract is sieved in two stages : first through a screen of 200, and then through a screen of 270 mesh.

1.2. Rotocell Extractor

After a short period of continuous extraction of the strips at a feedwater temperature of 80°C, nitrite was found in the extract. The same phenomenon was also observed during continuous extraction at a temperature of 20°C.
To prevent this transformation of the extract, we are now trying to reduce the residence time of the extract in the Rotocell extractor.

1.3. Sterilization Line of the Extract

The turbine of the pump of the sterilization line was found to be strongly corroded. It appears that the liquid used to clean the lines was too harsh for the stainless steel of which the turbine is made.
Fortunately the stainless steel of the rest of the line is of better quality.
Therefore only the turbine had to be replaced.

1.4. Fermenter

Some problems were observed with the automatic pH regulator. It was sent to the supplier for servicing. In the meantime we are using the pH regulator of the 20-l fermenter.
The automatic anti-foam injection system works badly from time to time and will have to be checked.

00001442288

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

2. STERILIZATION TESTS

Trials to test the sterility of the sterilization lines of both the extract and the ingredients,as well as of the fermenter, were continued.
Unfortunately infections were still found in the lines as well as in the fermenter. These problems will be followed up.

U. Will

NIL/sde/JUNE 24 1981

Φ00014289

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE DEVELOPMENT 1

PERIOD COVERED : MAY 21 - JUNE 26 1981

WRITTEN BY : Singer-Z. (ZDS)

---

365 BARBARA

Objective

K : 15 mg/cig.
N : 1 mg/cig.
Format : 7.95 / 20 / 84 mm

Description of samples and results

A series of cigarette prototypes, with three different blends and non-tobacco materials used on prototype 7 C 1, was produced at FTR and in PMG Munich.
An additional trial (prototypes Nos 30 P and 31 P) was carried out in FTR with 4.0 I /45'000 filter tow and Z3/60 tipping paper.
Of all the prototypes produced, the expert Panel A selected prototypes Nos 30 P and 41 P. Both versions have been presented to the German Marketing Department. Version 41 P will be product tested against CAMEL FILTER and MARLBORO DB. A sample of the test cigarettes (41 T) has been completely evaluated and the results correspond to those of the previous prototype 41 P. The test was ready on May 25th 1981 and its first part dispatched on June 23rd 1981.
(See main characteristics of prototypes 30 P and 41 T in the table next page).

0001144290

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT NAME : B A R B A R A | PROJECT NO : 365 | PROJECT LEADER : ZDS | DATE : June 19th 1981

PROTOTYPE NO		30 P	41 T
BLEND NO		DB0136502R02	DB0136505N25 (containing 11 % of ET)
TA	%	1.65	1.71
NITRATE-NITROGEN	%	0.20	0.20
REDUCING SUGARS	%	10.8	9.8
FORMAT : DIAMETER	mm	8.01	7.93
FILTER LENGTH	mm	20	21
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	1072	1020
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	832	784
CIGARETTE RTD	mm WG	92	114
DILUTION	%	19	12
CIGARETTE PAPER		Wattens 60	Wattens 60
TIPPING PAPER		Z3 / 60	Z3 / 30
FILTER : TYPE		Single	Single
TOW		4.0 I / 45'000	3.4 I / 46'000
ADDITIVE			
PAPER		FU-POV 40	FU-POV 40
RTD	mm WG	63	68
TAR (K)	mg/cig.	14.7 (12.9)	14.7 (12.9)
SN (N)	mg/cig.	1.07 (0.92)	1.03 (0.89)
CO	mg/cig.	15.2	18.1
NO	mg/cig.	0.19	0.21
PUFF COUNT		9.4	9.1

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0001449291

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

335 LOLITA PRODUCT TEST IN GERMANY

Objective

To develop a full-flavour cigarette having taste characteristics close to those of the L & M brands.
K : 10 mg/cig.
N : 0.8 mg/cig.
Format : 7.95 / 25 / 84.4 mm

Summary

Prototypes 52 and 63 are currently being product tested against each other by the smokers of the normal filter cigarettes and by those of the full-flavour cigarettes.
The selected prototype will be tested against MARLBORO DB and CAMEL FILTER.

Description of samples and results

Cigarette samples of candidates Nos 52 T and 63 T, produced in PMG Munich, were analysed and taste evaluated. The analytical figures are within the target values. Tastewise, there is no significant difference between the product test cigarettes and the previous prototypes. The test was dispatched on June 10th 1981.
(See main characteristics of prototypes 52 T and 63 T in the table next page).

2024100144292

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT NAME : L O L I T A | PROJECT NO : 335 | PROJECT LEADER : ZDS | DATE : June 30th 1981

PROTOTYPE NO		52 T	63 T
BLEND NO		049 - 335 ML 021	049 - 335 ML 021
TA	%	1.67	1.68
NITRATE-NITROGEN	%	0.23	0.21
REDUCING SUGARS	%	8.6	8.9
FORMAT : DIAMETER	mm	7.94	7.94
FILTER LENGTH	mm	25	25
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	1083	1084
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	726	728
CIGARETTE RTD	mm WG	98	95
DILUTION	%	27	26
CIGARETTE PAPER		Ecusta 753	Ecusta 753
TIPPING PAPER		Cork Z4 / 80	Cork Z4 / 80
FILTER : TYPE		PSP	
TOW		2.5 Y / 48'000 / 5.0 Y / 45'000	
ADDITIVE		CHARCOAL PILOT 1184	
PAPER		Ecusta 634	
RTD	mm WG	300	
TAR (K)	mg/cig.	9.8 (11.0)	9.8 (11.1)
SN (N)	mg/cig.	0.71 (0.81)	0.75 (0.86)
CO	mg/cig.	11.9	12.0
NO	mg/cig.	0.23	0.23
PUFF COUNT		7.9	8.3

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0000144293

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

416 PRINCE

Objective

K : max. 14 - 15 mg/cig.
N : 0.8 - 1 mg/cig.
Format : 7.95 / 20 / 84 mm

Summary

The development is based on the new blend No DB0141601N25 which is available in five processing versions (different treatments).
Using the smoke yield prediction program, the theoretical tobacco weight and the analytical figures of the reference cigarette were calculated. Two constructions were suggested.

Description of samples and results

For each processing blend version, trials were carried out using both constructions. Of all the prototypes produced (10), the expert Panel A selected version No 9 P as being the one closest to the PRINCE DENMARK.
Prototype No 8 P is considered as being a good quality cigarette.
Prototype No 9 has been presented to the German Marketing Department.
(See main characteristics of prototypes 8 P and 9 P in the table next page).

Nyffeler-U.

ZDS/cap/JUNE 30 1981

2000144294

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT NAME : P R I N C E | PROJECT NO : 416 | PROJECT LEADER : ZDS | DATE : June 30th 1981

PROTOTYPE NO		8 P	9 P
BLEND NO		DB0141601N25	DB0141601N25
TA	%	2.27	2.27
NITRATE-NITROGEN	%	0.16	0.16
REDUCING SUGARS	%	7.9	8.2
FORMAT : DIAMETER	mm	7.99	7.99
FILTER LENGTH	mm	20	20
CIGARETTE LENGTH	mm	84	84
TOTAL WEIGHT	mg/cig.	1061	1054
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	832	830
CIGARETTE RTD	mm WG	99	96
DILUTION	%	33	17
CIGARETTE PAPER		Wattens 60	Wattens 60
TIPPING PAPER		4 x M. 0.11 . 6.5	Z3 / 60
FILTER : TYPE		Single	Single
TOW		2.5 Y / 48'000	3.4 I / 46'000
ADDITIVE			
PAPER		FU-POV 100	FU-POV 40
RTD	mm WG	515	410
TAR (K)	mg/cig.	9.2 (10.3)	12.8 (14.6)
SN (N)	mg/cig.	0.94 (1.10)	1.2 (1.42)
CO	mg/cig.	10.6	18.7
NO	mg/cig.	0.14	0.17
PUFF COUNT		9.7	9.2

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0000144295

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE DEVELOPMENT 2

PERIOD COVERED : MAY 21 - JUNE 26 1981

WRITTEN BY : Frattolillo-A. (ANF)

---

400 COMMONWEALTH 4 (CONTROL)

Objective

To develop a low-tar Virginia cigarette of high quality, delivering 4.0 mg tar and conforming to the Hunter list.

Description of samples and results

Using tobacco blend No GB1040001NO2, batch No 843, cigarette prototypes of various designs were produced and evaluated. The description and evaluation results of the above mentioned prototypes are stated in the table next page.

0000144296

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

COMMONWEALTH 4 (CONTROL)

PROTOTYPE NO		2 P	9 P	10 P	11 P	16 P	17 P
CUT FILLER							
TA	%	2.31	2.58		2.43		2.50
RS	%	13.3	16.3		15.0		16.5
N-NO_3	%	0.02	0.02		0.03		0.01
Filling power at 12 % M	mg/ml	252	231	233	233	237	237
FILTER TYPE		2.5Y/48/DICO	----------	----------	2.5Y/48	2.5Y/75+5.0Y/45	2.5Y/75+5.0/45
FILTER RTD	mm WG	85	82	84	90	126	125
CIGARETTE							
Format	mm	7.95 / 20 /.84.4	----------	----------	----------	----------	----------
Total weight	mg/cig.	1066	1003	1008	989	1031	1026
Tobacco weight	mg/cig.	808	745	751	751	750	749
Total RTD	mm WG	101	82	81	90	99	99
Cigarette paper		Ecusta 753	----------	Ecusta 708	----------	Pela 170 MNC	Ecusta 708
Tipping paper		4 M. 0.3.3.5	6 M. 0.3.3.5	----------	----------	4 M. 0.3.3.5	----------
Dilution	%	56	57	61	65	61	64
Compressibility at 12 % M	mm	2.67	3.50	3.38	3.29	3.53	3.16
SMOKE							
CO	mg/cig.	5.8	7.4	7.1	6.6	6.5	7.0
NO	mg/cig.	0.03	0.03	0.03	0.03	0.03	0.03
TAR	mg/cig.	4.2	4.7	4.7	4.6	4.2	4.3
SN	mg/cig.	0.49	0.57	0.60	0.55	0.56	0.57
Puff count		12.0	10.6	11.1	11.4	10.3	11.1

600014429?

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Of the above trials, prototype No 9 P was chosen by Panel A and a sample of these cigarettes was sent to Richmond where experimental flavouring tests will be conducted.

Comments

Most of the analytical results obtained are within the proposed objective but, there is a problem with the "puff-count" as it is too high.
The problem was discussed with the Leaf experts (Lausanne) who suggested continuing development on the basis of the HILTON UK design, prototype No 85 P, with some changes in the cigarette paper.
At the present time, the above-mentioned cigarettes and many others have been evaluated but the problem with the "puff-count" still persists. At this point, assuming that the "puff-count" is considered a highly valuable parameter, we should start considering other factors than cigarette design in order to achieve a lower "puff-count".
All the possibilities concerning cigarette design have been exploited without success. Therefore, it is suggested to approach the problem from the level of tobacco blend, followed by improved processing.
Some justification for the above suggestions are derived from the following points of interest :

1. The TA of the cut-filler, showing an average of 2.46 % incorporated in a cigarette which has to deliver 4.0 mg tar and an 8 puffs-count, may be too high.

2. The procedure followed in the processing of the tobacco blend had to be adapted to the existing FTR processing-line.

3. Our production center, offering a maximum of 36 c/i (laminae-line), limited the cut of the tobacco strips to a larger size than that specified at the Lausanne meeting.

4. Changes or alterations in the cutter (laminae-line) would have caused production problems and an extensive delay in the project.

In conclusion, as this trial was adapted, it would only have been by chance that the outcome of this first operation could have covered all the parameters.

0001144298

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

420 COMMONWEALTH 9 (CONTROL)

Objective

To develop a Virginia cigarette of high quality delivering 9.0 mg tar, which conforms to the Hunter list.

Description of samples and results

Using tobacco blend No GB1042001ND1, batch No 848, cigarette prototypes of various designs were produced and analysed. The description and results of these prototypes are given in the table next page.

Comments

The analytical results obtained on the previously described prototypes show that at least two of them are within the objective.
These prototypes were presented to Panel A who preferred the prototypes with 25-mm filter plug; but, further development was requested due to the lack of impact and tobacco taste.
In general, the problems encountered in the COMMONWEALTH 9 Control correspond to those of COMMONWEALTH 4 Control.

Nyffeler-U.

Φ0001144299

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

COMMONWEALTH 9 (CONTROL)

PROTOTYPE NO		3 P	6 P	7 P	8 P	10 P
CUT FILLER						
TA	%	2.74	2.80		2.84	2.87
RS	%	15.8	14.6		14.9	15.4
$N\text{-}NO_3$	%	0.04	0.02		0.03	0.02
Filling power at 12 % M	mg/ml	261	250	252	253	270
FILTER TYPE		3.4 I / 46	2.5 Y / 48			
FILTER RTD	mm WG	76	86	82	88	111
CIGARETTE						
Format	mm	7.95 / 25 / 84.4	7.95 / 20 / 84.4	7.95 / 20 / 84.4	7.95 / 20 / 84.4	7.95 / 25 / 84.4
Total weight	mg/cig.	1025	1030	1033	1036	1096
Tobacco weight	mg/cig.	766	792	799	801	809
Total RTD	mg WG	71	80	79	85	102
Cigarette paper		Wattens 60	Ecusta 708	Wattens 60	Ecusta 708	Ecusta 708
Tipping paper		6 M. 0.15.4.5	4 M. 0.3.3.5	4 M. 0.3.3.5	6 M. 0.15.4.5	4 M. 0.15.4.5
Dilution	%	49	50	51	47	44
Compressibility at 12 % M	mm	4.14	4.16	4.33	4.27	3.84
SMOKE						
CO	mg/cig.	8.8	7.1	8.4	9.4	10.5
NO	mg/cig.	0.04	0.03	0.04	0.04	0.04
TAR	mg/cig.	9.6	9.2	9.7	9.8	9.2
SN	mg/cig.	1.19	1.14	1.20	1.22	1.12
Puff count		10.1	10.9	10.9	10.5	10.7

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE DEVELOPMENT 3

PERIOD COVERED : MAY 21 - JUNE 26 1981

WRITTEN BY : Nagel-P. (PHN)

---

364 CALIFORNIA FIRST PRODUCTION

Objective

1. To reduce the tar delivery of MURATTI AMBASSADOR (MAA, MAK) to 10 mg/cig.
2. To adapt the PHILIP MORRIS MULTIFILTER 100'S to the new CALIFORNIA blend (containing 18 % of ET-1).
3. To reduce the tar delivery of MPH to 11 mg/cig.

Summary

The development was based on the new CALIFORNIA blend containing 18 % of the expanded tobacco from the USA. In view of the availability of the expanded tobacco from Onnens, trials were carried out in order to compare the two expanded tobaccos and, if possible, to replace the US ET by the ET from our own production in Onnens. The results of the complete evaluation can be summarized as follows :

1. Blend containing ET from Onnens shows significantly lower TA figures in comparison with those of the blend containing US ET. This is confirmed in the cigarette by a decrease in the SN figures.
   No change was observed with the other analytical and physical parameters of the cigarette.

2. Tastewise, there was no significant difference. The ET from Onnens was accepted to be used in the production of the new MAA, MPK, MAK and MPH cigarettes.

The first production started on May 27th 1981. No important problems were encountered (See the description and the main analytical figures of the prototypes accepted and those of the cigarette from the first production in the table enclosed). The organoleptic characteristics of the cigarettes produced correspond to those of the previous prototypes.

0000144301

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT NAME : C A L I F O R N I A PROJECT NO : 364 PROJECT LEADER : PHN DATE : JUNE 29 1981

PROTOTYPE NO		6 C 2	MAA 09	7 P	MAK 08	12 C	MPH 07
BLEND NO		CH0336402N02 (18 % of ET-FC-ONNENS) ----------					
TA	%	1.26	1.29	1.26	1.27	1.28	1.34
NITRATE-NITROGEN	%	0.12	0.13	0.15	0.15	0.15	0.15
REDUCING SUGARS	%	9.7	9.6	10.4	9.8	11.0	9.1
FORMAT : DIAMETER	mm	7.95	7.95	7.95	7.95	7.85	7.85
FILTER LENGTH	mm	20	20	20	20	25	25
CIGARETTE LENGTH	mm	79.4	79.4	84	84	99	99
TOTAL WEIGHT	mg/cig.	1012	995	1054	1050	1223	1226
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	711	701	747	763	867	864
CIGARETTE RTD	mm WG	112	110	112	110	102	107
DILUTION	%	23	19	19	22	28	25
CIGARETTE PAPER		P. 54	P. 54	P. 54	P. 54	P. 130	P. 130
TIPPING PAPER		4 x M. 0.15 . 4.5 (48 mm)		4 x M. 0.15 . 4.5 (57 mm)		4 x M. 0.15 . 4.5 (58 mm)	
FILTER : TYPE		DOUBLE (MAKPC) ----------				DOUBLE (MPHPC) ----------	
TOW		2.5 Y / 55'000 - 5.0 X / 40'000 ----------				5.0 I / 46 - 5.0 X / 40	
ADDITIVE		ACTIVE CHARCOAL ----------					
PAPER		FU-POV 40 L ----------					
RTD	mm WG	75	73	72	72	68	73
TAR	mg/cig.	9.7	10.6	10.7	10.1	11.1	10.7
SN	mg/cig.	0.72	0.73	0.78	0.68	0.85	0.84
CO	mg/cig.	11.3	14.3	12.5	14.1	11.0	14.7
NO	mg/cig.	0.12	0.15	0.13	0.14	0.12	0.14
PUFF COUNT		8.1	8.4	8.4	8.6	10.6	10.3

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

0000144302

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

266 HARVARD

Objective

To improve the taste quality of MURATTI 2000.
To decrease the smoke delivery to 6 mg tar.

Summary

In view of the negative test results of prototype 131 P, further development was necessary. The new guide-lines were established during the meeting with the Marketing Department held on May 6th 1981 in Lausanne.
The construction of prototype 131 P (triple filter) was chosen together with the CALIFORNIA blend (used in the MAA, MAK, MPK and MPH cigarettes since the beginning of June 1981) as the basis for new trials.

Description of samples and results

Following the above, a series of 4 prototypes was produced. (See analytical and physical characteristics in the table next page).
Different cigarette papers were tested with the aim of obtaining the best organoleptic characteristics. All the prototypes were within the aimed analytical figures. The expert Panel A selected prototype No 137 P, which had the same construction as prototype No 131.
The candidate was presented to the Swiss Marketing Department, who confirmed Panel A's evaluation; this product corresponds to the objective of the MURATTI AMBASSADOR family. It was decided to test it in the blind product test against current MURATTI 2000 to be held in autumn 1981.

P. Vagel

PHN/cap/JUNE 29 1981

0001144303

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT NAME : H A R V A R D		PROJECT NO : 266		PROJECT LEADER : PHN	DATE : June 9th 1981
PROTOTYPE NO		137	138	139	140
BLEND NO		---------- 042-266MA003 ----------			
TA	%	1.34	1.38	1.45	1.35
NITRATE-NITROGEN	%	0.16	0.17	0.16	0.16
REDUCING SUGARS	%	9.5	9.9	10.4	9.7
FORMAT : DIAMETER	mm	---------- 7.95 ----------			
FILTER LENGTH	mm	---------- 25 ----------			
CIGARETTE LENGTH	mm	---------- 84 ----------			
TOTAL WEIGHT	mg/cig.	1044	1043	1043	1047
TOBACCO WEIGHT AT 12 % O.V.	mg/cig.	697	694	692	699
CIGARETTE RTD	mm WG	100	101	102	98
DILUTION	%	46	44	44	45
CIGARETTE PAPER		Pela 54	Pela S 130 M	WP 60	110-6
TIPPING PAPER		---------- Z4 / 120 ----------			
FILTER : TYPE		---------- TRIPLE ----------			
TOW		---------- 2.5 Y / 48 - 5.0 X / 40 - 2.5 Y / 55 ----------			
ADDITIVE		---------- Charcoal N.A. ----------			
PAPER		---------- FU-POV 100 ----------			
RTD	mm WG	98	100	100	99
TAR	mg/cig.	6.2	5.9	6.1	6.3
SN	mg/cig.	0.46	0.48	0.51	0.49
CO	mg/cig.	9.7	8.9	9.6	9.2
NO	mg/cig.	0.10	0.09	0.09	0.10
PUFF COUNT		7.8	7.8	8.0	8.0

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

Ø0014430Ø

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE DEVELOPMENT 4

PERIOD COVERED : MAY 21 - JUNE 19 1981

WRITTEN BY : Toïmil-R. (RAT)

---

389 EXIT

Objective

To reproduce the dilution system of the BARCLAY cigarette.

Summary

Following the trials carried out using pure tobacco grades and filters having 4 and 6 grooves, three blends were selected in order to have a Pan-Europe blend for this project.

Description of samples and results

Several prototypes were produced using a MLF blend but having neither reconstituted tobaccos nor expanded stems. Analytically, these prototypes correspond to the objective :

Dilution (US)	%	80
Tar	mg/cig.	1.5
SN	mg/cig.	0.22
Puff count		11

With regard to taste, tobacco and flavouring are not well balanced.
Prototypes having different quantities of flavours were ordered to continue the evaluation of this blend with this system of dilution.
Cigarettes were ordered with CAMBRIDGE and PRINCE blends. Their analytical results were similar to those of the previous prototypes.
Some difficulties were encountered during the production of the 4-groove filters due to the printed threads.
Filters having a 2.5 / 48'000 tow and a 25 g/m^2 non-porous paper were ordered to adjust the machine.

0000144305

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

421 HILTON ULTRA

Objective

To extend the HILTON PE family by two cigarettes having the following smoke yields :
Tar : 3 mg/cig. and 4 mg/cig.
SN : 0.3 mg/cig. and 0.4 mg/cig.

Summary

On the basis of the specifications of the HILTON ULTRA cigarette produced in the USA, a first series of prototypes was produced.

192 BELTOISE

Objective

To introduce the MURATTI AMBASSADOR EXTRA MILD sold in France into the Italian and export markets.

Summary

The first trials produced in Holland correspond to the objective. A series of prototypes was taste evaluated and accepted by Panel A.

Description of samples and results

Three cigarettes having different total weights were produced in Holland.
Prototype 1 P : total weight according to specifications.
Prototype 2 P : - 10 mg/cig.
Prototype 3 P : - 20 mg/cig.
The analytical results of these prototypes are similar :

Prototype		1 P	2 P	3 P
DPM	mg/cig.	7.1	7.1	7.3
SN	mg/cig.	0.44	0.47	0.47
CO	mg/cig.	9.7	9.6	9.6
NO	mg/cig.	0.13	0.12	0.12
Puff count		8.2	7.9	8.1
Dilution	%	26	24	24
Cigarette RTD	mm WG	89	85	85
Compressibility	mm	3.49	3.32	3.32

00014430

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Follow-up

These prototypes will be presented to the Marketing Department of Area III for approval.
Trials concerning the first MAC production in FTR will shortly be carried out (production will start on June 26th).
These prototypes will then be taste evaluated by Panel A.

413 PALINKA

Objective

To produce the MPK brand in Hungary.

Summary

The first trials produced in Hungary have been analysed, but the analytical results did not correspond to the objective.
An action programme has been established together with Mr. J. Lubomirski in order to make comparisons between the standard raw materials of the MPK and the materials which were used during the production of the prototypes in Hungary.

RAT/cap/JUNE 22 1981

00014430?

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE DEVELOPMENT 5

PERIOD COVERED : MAY 21 - JUNE 23 1981

WRITTEN BY : Du Bois-J.-H. (JHD)

E U C

Objective

- To establish a detailed study of our 1980 activities concerning "Marketing / Operations" and R & D projects.
- To study a system of planification which would enable each person concerned to know which things have to be done and when.

Results

No new development can be reported this month.

Follow-up

The net-work and related materials will be discussed with the project leaders in order to establish a final standard model. Furthermore, a simulation program will be established for a certain number of projects and a meeting with Hewlett-Packard is being organised for the second week of July in order to study a simulation program.

383 HELIUM

Objective

To produce a 100-mm cigarette with a total weight of less than 850 mg/cig.

Follow-up

A prototype with a blend containing 50 % of ET will be produced.

JH DuBois

JHD/cap/JUNE 29 1981

0000144308

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : MATERIAL DEVELOPMENT

PERIOD COVERED : MAY 22 - JUNE 24 1981

WRITTEN BY : Erkohen-E. (ELE)

---

1. NEW FILTRATION MATERIAL

Eastman 2.5/40.000 Y Tow.

Objective

2.5/40.000 Y tow evaluation. Possible replacement of the existing 3.4/46.000 I by this item.

Summary

The 2.5/40.000 tow was evaluated on the basis of its capacity curve (1): for an RTD of 375 mm WG, we noted that an economy of 15% of cellulose acetate could by made by using the 2.5/40.000 Y. Then MLF-CH cigarettes were made with these filters and were compared with MLF-CH standard cigarettes. From the smoke delivery point of view, no difference was noted between trial and control cigarettes. These cigarettes were submitted for taste evaluation. The different panels gave contradictory opinions. It was decided to repeat the trial.

Description of Samples and Results

The smoke delivery analyses and the important physical cigarette parameters are given in the table on the following page.

Conclusion

The trial cigarettes are comparable to the standard from the point of view of smoke delivery. Compared to the former trial (1), the analytical variations are within tolerances.

Follow-up

The cigarettes are being evaluated for taste by various panels. The final decision concerning a mail-out test will be made as soon as the results of the various taste evaluations are known.

0000144309

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Tow Item	2.5/40.000 Y	3.4/46.000 I
Dimensions "mm"	7.99/18/79	7.99/18/79
Tobacco weight at 12% MC "mg"	788 (+0.3)[1]	776 (-0.5)
TA %	1.74 (+2.4)	1.70 (-1.2)
RS %	7.9 (+8.2)	7.8 (-1.3)
Nitrate-N %	0.18 (-21.7)	0.18 (-14.3)
Ammonia-N %	0.31 (-13.9)	0.31 (-11.4)
RTD cig "mm WG" (unencapsulated)	88 (+3.5)	91 (+5.8)
RTD filter tip "mm WG" (encapsulated)	60 (+3.5)	62 (+3.3)
Filter Dilution % US	18 (+5.9)	17 (0.0)
Filter Efficiency %	43 (-2.3)	42 (-4.6)
CO mg/cig	16.7 (-2.3)	16.8 (+6.3)
NO mg/cig	0.21 (-22.2)	0.20 (-16.7)
TPM mg/cig	18.0 (-6.7)	18.9 (-4.6)
DPM mg/cig	15.8 (-6.5)	16.6 (-5.1)
SN mg/cig	1.04 (-8.8)	1.07 (-5.3)
Puff count	8.9 (-3.3)	9.2 (+3.4)
HCN µg/cig	187 (-6.0)	195 (+1.0)
Total Aldehydes mg/cig	1.35 (+7.1)	1.51 (+11.9)

1. Values in parentheses are the difference in % compared former trial.

0000144310

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

2. STUDY: COMPO

Objective

Determination of the influence of different cigarette paper parameters on the static burning time, puff count and smoke yield assuming constant tobacco characteristics.

Introduction

One of the most important characteristics of a cigarette is its static burning time. This determines the time of consumption of a cigarette and at the same time, the number of puffs. The static burning time is influenced by two factors:

i. The type of tobacco

ii. The cigarette paper.

Assuming that the tobacco factor is kept constant, the cigarette paper will influence the static burning time by the following parameters:

i. Permeability

ii. Fiber content

iii. Filler content

iv. Type of additive.

As the permeability will influence the dilution level of a cigarette, the smoke deliveries will be affected. In order to elucidate the influences of the parameters mentioned above, 25 types of different cigarette papers were prepared in cooperation with De Mauduit.

Description of Cigarette Samples

The description of the samples made with these cigarette papers is given below.

Cigarette Diameter "mm"	7.95 ± 0.05
Cigarette Length "mm"	79.4 ± 0.2
Cigarette Filter Length "mm"	18
Filter Tow Type	3.4/46.000 I
Filter RTD "mm WG"	350 ± 10
Filter Dilution % US	none
Tobacco Column Filler Type	MLF-CH
Tobacco Quantity "mg"	780 ± 10
Cigarette Paper	Different samples.

0000144311

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Follow-up

The samples were made on June 23. 1981 and the following parameters will be checked:

- Static burning time min/40 mm
- CO mg/cig in main and side-stream smoke
- NO mg/cig in main and side-stream smoke
- Nitrosamines in main and side-stream smoke
- DPM mg/cig in main-stream smoke
- SN mg/cig in main and side-stream smoke
- CO_2 mg/cig in main-stream smoke
- Puff count.

Reference

1. Erkohen-E. Monthly Report (February 1981)

E. Erkohen

ELE/nod/JUNE 25 1981

000144312

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : TOBACCO STUDIES

PERIOD COVERED : MAY 25 - JUNE 17 1981

WRITTEN BY : Joseph-L. (LIJ)

TOBACCO LOT ANALYSES

Introduction of Inputs on EDP

Partial analytical results of thirty-five lots were introduced in the PME Analytical Data List.

Lots under Evaluation

Fifty-six lots.

Lots available, but not yet analysed

Fifty lots.

Special Lots

We have received two samples of Lot 8305 (Paraguay tobacco) fermented differently. The analyses are under way.

ASSISTANCE TO OTHER PROJECTS

PROTAGORAS

We have received two samples of treated SPOTLESS blends (Nos 3 and 4). The analyses are under way.

SAVOURY

Seven reference cigarettes were made with five different BUR lots that were cased and cut in the primary; two of them were also cut in the primary but uncased. The analytical results will be useful for the smoke yield prediction study. The analyses are under way.

0000144313

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

MISCELLANEOUS

Pakistan tobacco samples

We have received twenty samples of Pakistan tobaccos. These were agricultural trials. The tobacco and pesticide analyses are under way.

EVON

The comparison of expanded tobaccos ex Onnens and ex US shows:

1) For the ET-FC blend ex Onnens (see Table 1)

- a lower TA level (-66%)
- a lower NO_3-N level
- a higher RS level (+54%).

Per cigarette:

- a lower NO delivery
- a lower SN delivery (-64%)
- a higher aldehydes delivery (+13%).

Per gram of burnt tobacco:

- a lower NO delivery
- a lower SN delivery (-52%)
- a higher aldehydes delivery (+19%).

2) For the ET-CH blend (see Table 2) no significant differences were found between the US expanded CH tobacco blend and the CH blend expanded in Onnens.

3) For the ET-BU blend (see Table 3)

- a lower NO_3-N level
- a lower TA level

Per cigarette:

- a lower NO delivery
- a lower SN delivery

Per gram of burnt tobacco:

- a lower NO delivery
- a lower SN delivery.

0001144314

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

TABLE 1

Comparison of the ET-FC ex Onnens and ex US

ET-FC	Lot 0707 ex Onnens	Lot 6783 ex US	Comments
Tobacco weight (mg/cig)	444	479	
RTD (mm H_2O)	150	164	
Firmness (mm)	3.83 at 11.3% m.c.	2.57 at 11.5% m.c.	
Cylinder volume (ml/10g)	73.1 at 10.0% m.c.	74.3 at 10.1% m.c.	
TA (%)	1.36	2.26	-66%
RS (%)	15.1	7.0	+54%
NO_3-N (%)	0.00	0.09	
Smoke Analyses			
CO (mg/cig)	12.5 (32.1)	10.3 (24.6)	
NO (mg/cig)	0.03 (0.08)	0.08 (0.19)	
DPM (mg/cig)	11.8 (30.3)	12.3 (29.3)	
SN (mg/cig)	0.55 (1.41)	0.90 (2.15)	-64% (-52%)
Puff count (puff/cig)	5.7 (14.7)	6.0 (14.3)	
HCN (µg/cig)	204 (525)	1.93 (460)	
Aldehydes (mg/cig)	1.24 (3.19)	1.08 (2.57)	+13% (+19%)

The values in parentheses are calculated per gram of burnt tobacco.

2000144315

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

It must be noted that the comparison between the different lots is difficult, due to the different RTD encountered.

SMOKE YIELD PREDICTION

A progress report has been written.

LIJ/nod/JUNE 24 1981

0001144316

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

TABLE 2

Comparison of the ET-CH ex Onnens and ex US

ET-CH	0803 ex Onnens	Lot 6666 ex US
Tobacco weight (mg/cig)	393	434
RTD (mm H_2O)	175	173
Firmness (mm)	2.53 at 10.4% m.c.	2.51 at 11.0% m.c.
Cylinder volume (ml/10g)	100 at 9.2% m.c.	87.8 at 9.4% m.c.
TA (%)	0.74	0.79
RS (%)	1.0	0.0
NO_3-N (%)	0.30	0.34
Smoke Analyses		
CO (mg/cig)	12.0 (34.9)	13.2 (34.7)
NO (mg/cig)	0.29 (0.84)	0.33 (0.87)
DPM (mg/cig)	11.2 (32.5)	12.3 (32.4)
SN (mg/cig)	0.34 (0.99)	0.38 (1.00)
Puff count (puff/cig)	4.7 (13.7)	5.0 (13.2)
HCN (µg/cig)	240 (697)	210 (553)
Aldehydes (mg/cig)	1.20 (3.49)	1.32 (3.47)

The values in parentheses are calculated per gram of burnt tobacco.

0001144317

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

TABLE 3

Comparison of the ET-BU ex Onnens and ex US

ET-BU	Lot 0900 ex Onnens	Lot 6276 ex US	Comments
Tobacco weight (mg/cig)	414	434	
RTD (mm H_2O)	184	168	
Firmness (mm)	2.17 at 11.0% m.c.	2.15 at 11.5% m.c.	
Cylinder volume (ml/10g)	112.5 at 9.8% m.c.	89.1 at 10.9% m.c.	
TA (%)	1.85	2.38	-29%
RS (%)	1.1	1.6	
NO_3-N (%)	0.47	0.57	-21%
Smoke Analyses			
CO (mg/cig)	12.0 (33.1)	12.8 (33.7)	
NO (mg/cig)	0.26 (0.72)	0.40 (1.05)	-58% (-46%)
DPM (mg/cig)	9.1 (25.1)	9.4 (24.7)	
SN (mg/cig)	0.47 (1.30)	0.77 (2.03)	-64% (-56%)
Puff count (puff/cig)	4.7 (13.0)	4.9 (12.9)	
HCN (µg/cig)	189 (521)	175 (460)	
Aldehydes (mg/cig)	0.96 (2.65)	0.99 (2.60)	

0000144318

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : INGREDIENT AND FLAVOUR DEVELOPMENT

PERIOD COVERED : MAY 25 - JUNE 25 1981

WRITTEN BY : Fatton-J.-P. (JPF)

---

335 / LOLITA

Objective

Development of new flavouring ingredients to improve the taste of the present brand.

Summary

Two versions are currently being market tested. The results are not yet available.

365 / BARBARA

Objective

Development of a full-flavour American blend cigarette for Germany.

Summary

Prototype 41 is currently being market tested. The results are not yet available.

208 / TENNIS

Objective

Fine tuning of the taste towards sweetness.

Summary

Version N (prototype 52) containing EBC 18, EPC 3 and EAC 79 has been accepted by Panel A. This prototype will be further tested in a blind test (Panel A) and then in a mail-out test (Panel D).

00014431 9

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Objective

Reduction in the ingredients in the Burley casing without significantly changing the taste.

Description

The trials were made on normal Swiss Marlboro cigarettes on which only the Burley casing was changed.

1P 30% reduction in all ingredients except water

2P 50% reduction in all ingredients except water

3P replacement of COCHISE by 4.30 kg of C7 (standard recipe for other ingredients)

4P replacement of COCHISE by 3.20 kg of C7 (standard recipe for other ingredients)

5P replacement of COCHISE by 5.37 kg of C7 (standard recipe for other ingredients)

6P replacement of 80 kg C2 by 80 kg C14 (standard recipe for other ingredients)

7P replacement of 80 kg C2 by 100 kg C14 (standard recipe for other ingredients)

8P replacement of 80 kg C2 by 60 kg C14 (standard recipe for other ingredients).

Summary

Prototypes 1P and 2P were smoked in a duo-trio test (Panel Delta) by 9-10 smokers. The results are as follows: the cigarette with 50% reduction in Burley casing was significantly different from the control, with a probability of 95 and 97.5% (t-test).

With the 30% reduction in Burley casing, the panelists could not recognize the control as the difference between the control cigarette and the cigarette with 70% burley casing was greater or equal to the difference between two control cigarettes.

0000144320

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

The eight prototypes produced were smoked by Panel A and the results are as follows:

- 1P is the more acceptable cigarette but the taste is too close to Burley, too raw, too irritating and not in line with MLF.

- 2P is a low quality cigarette with the same characteristics as prototype 1, but more accentuated.

- 3P is irritating, covering the mouth, not clear and not in line with MLF.

- 4P is irritating, covering the mouth, not clear and not in line with MLF.

- 5P is the more acceptable prototype of this series, more pleasant but too much on the sweet side.

- 6P is not clean, not open and not in line with MLF.

- 7P is comparable to prototype 6P but sweeter. Not in line with MLF.

- 8P has taste characteristics that are not bad, but it is significantly different from MLF. (1)

Follow-up

Panel A suggested producing some tobacco batches in which only the US Burley would be treated with the same application of casing as usual.

The Burley substitutes will be blended with the bright tobacco receiving only the precutting solution.

401 / STEM

Objective

To improve the taste and quality of the stems.

Summary

The development will first be done on a flue-cured stem blend, the same as that used for the ATLANTIC trials. One batch of stems has been sprayed with ESTC-1 containing SFC 204 (LTR casing for project Keegan) received from Richmond.

0001144321

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

The second batch has been sprayed with ESTC-2 containing SFC-AC-3 (stem casing) also received from Richmond.

Follow-up

100% stem cigarettes will be made and evaluated as soon as the moisture equilibrates at an acceptable level.

Reference

1. Krasna-B. Letter to Fatton-J.-P. re Panel Delta taste evaluation of BUCA project, June 23 1981.

JPF/nod/JUNE 30 1981

0001144322

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : MATERIAL TESTING

PERIOD COVERED : JUNE 1 - 25 1981

WRITTEN BY : Balliger-P (PBA)

CIGARETTE PAPER

In order to widen the range of cigarette papers suitable for the pan-European Marlboro, the following qualities were evaluated:

Schoeller & Hoesch	:	Pela 100 Mnc 7174
Schoeller & Hoesch	:	Pela 100 Mnc 7175
JOB	:	No. 537
Mauduit	:	111-6

The physical characteristics of the four different variants corresponded almost exactly to our standard quality Mauduit 110-6.

However, the subjective evaluation showed unacceptable differences in taste.

FILTRATION MATERIAL

The half-finished filter DICO 200 Top G produced by Baumgartner and used in the Flint Ultra brand has the disadvantage that no adjustment of the resistance to draw is possible during filter making due to the fact that the manufacturing is carried out in two stages, namely:

1) hot crimping of the paper
2) filter manufacturing on the machine

In order to considerably reduce the variations brought about by this manufacturing system, the supplier suggested a filter called CAF 250 (cold crimping). This filter is produced in one single stage, the crimping of the paper being made directly on the filter-making machine. The adjustment of the resistance to draw is achieved by modifying the crimping.

In order to evaluate this new filter, sample Flint Ultra cigarettes will soon be produced.

PRINTED MATERIAL

At the present time, most of the printing materials used in the helio process are toluene-based inks and alcohol-based varnishes.

0001144323

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

The disadvantage with this formula is that a strong smell is released by the Toluene (ink solvent).

Consequently, in order to prevent possible off-taste of cigarettes packed in blanks printed with this formula, tests were organized using HL labels printed with alcohol-based inks of different origins, namely:

HL MLF ex-Rentsch / Lorieux ink No. 26436
HL MLF ex-Rentsch / Sicpa ink No. 803234
HL MLF ex-Rentsch / Siegwerk ink No. 10/605420/8

The results of the laboratory tests were satisfactory and so industrial trials will be carried out with this material in the near future.

TECHNICAL SHEET

Filtration material
No. 22 008, CAF 250, ref 213032/111

PBA/edk/JULY 1 1981

0001144324

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : CIGARETTE AND SMOKE ANALYSIS

PERIOD COVERED : MAY 21 - JUNE 20 1981

WRITTEN BY : Senehi-F (SEF)

CIGARETTE INFORMATION REPORT (CIR)

The dilution values of the cigarettes obtained up till now by all the PME laboratories do not correspond to the actual values due to the high internal pressure drop of the PME instrument.

From July 1 1981 onwards, all the affiliates will use a new instrument developed by PM-USA. This instrument, called PDI-DDI is characterized by a very low internal pressure drop and gives higher dilution values than the old one.

A regression curve was established to correct all the dilution values of the diluted brands mentioned in the CIR. These new values will be indicated in the CIR No. 6-7/1981.

This regression curve is of the type $y = ax + b$,

x being dilution obtained with the old instrument

y being dilution obtained with the US PDI-DDI instrument

$$y = 1.39\ x - 2.1$$

This regression curve was established with cigarettes having dilution values between 10 and 50 %.

The coefficient of correlation of this curve is very good ($r = 0.97$) but it should be pointed out that the slope of the curve for the dilution can be slightly modified according to the level of RTD and the type of tipping perforation of the cigarettes used to determine this curve.

PRODUCT REPORTS

Product reports were written on the following new or modified brands:

0001144325

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

Brand	Manufacturer	Country of sale
Savoy Mild Menthol 84/F (line extension)	Scandinavian Tob. C.	Denmark
Savoy Special Mild 83/F (line extension)	Scandinavian Tob. C.	Denmark
Rothmans K.S. Special Mild 84/F (line extension)	Rothmans	Norway
South State Mild 84/F (line extension)	Tiedemanns	Norway
Caballero 70/NF (imported)	Laurens NL	Switzerland
Caballero 84/F (imported)	Laurens NL	Switzerland
Mary Long No. 1 80/F (new brand)	BAT	Switzerland
Cartier Luxury Mild 94/F (new brand)	Carreras-Rothmans	United Kingdom
Kent Golden Lights 94/F (new brand)	BAT	United Kingdom
Sovereign Special Mild 84/F (line extension)	Gallaher	United Kingdom

SEF/edk/JUNE 29 1981

0001144326

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE	:	INSTRUMENTATION AND PROCESS AUTOMATION
PERIOD COVERED	:	APRIL 23 - JUNE 22 1981
WRITTEN BY	:	Thévoz-M. (MIT)

Distribution of Instruments

The PDI/DDI instruments, USA model, from Weltab and Bergen have been transformed to correspond to the instruments of the other affiliates. The transformation consisted of placing a new measuring head and a board with amplifiers in the system in order to simplify the calibration procedures.

New Prototypes

At the present time, an automatic loader for the Filtrona machines (Ø, RTD, Dil) is being built. Special attention is being paid to its mechanical conception. Automatic loading of cigarette batches at the entry of the instrument will lead to considerable time saving in routine checks.

A servo-circuit has also been developed for the smoking pumps from Battelle. The transformation of these pumps consisted of installing a new dc motor with a tachymetric generator. The signal emitted by this generator enables very precise feed-back control of the speed of the motor. The servo-circuit may be fitted with a setting point which enables the puff volume on the smoking machines to be adjusted exactly.

Data Treatment for QC-FTR

A detailed list of specifications has been established for the development of programmes for acquisition and treatment of routine RTD-dilution measurements. The data for the various brands and production units will be introduced onto the keyboard of a mini HP 85-type computer. The latter will keep up to date statistics for each group which will be presented in graphic form. The daily results will be stored on magnetic tapes in order to establish a monthly report for each brand.

It is planned to establish a direct link between the RTD/Dil measuring instrument and the calculator.

Automation of the Smoking Laboratory

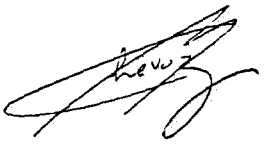
Project COLDAC (Computerized Laboratory Data Acquisition)

A complete edition of the specifications of this project is being prepared with the various users. At a seminar held on June 19 1981, the users were given detailed information on the characteristics of the hardware used and the features of the software supplied by Hewlett-Packard.

Ø0014432?

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

The "Bar Code" system proposed for the identification of samples in the laboratory was also presented at this meeting. A 9-character alphanumeric code (code 39) would seem to satisfy the needs of the various users.



MIT/jud/JUNE 23 1981

D0014328

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

PROJECT TITLE : LEGISLATION

PERIOD COVERED : MAY 1981

WRITTEN BY : Fink-W. (WAF)

ROYAL DEGREE - BELGIUM

The new legal mentions on cigarette packs become effective on January 1, 1982.

The legal mentions to be printed in minimum lettertype 8 on the cigarette packs are the following :

Warning : Le tabac nuit à la santé
Tabak schaadt de gezonheid
Tabak schädigt die Gesundheit

Tar and nicotine content

Goudrons, teer.....mg
Nicotine.....mg

(in mg and tenth of mg)

The authorized tolerance is 15% more than the content mentioned on the pack. However, in case the cigarettes' content is 7 mg tar or 0.7 mg nicotine or less, the authorized tolerance is only of 1 mg tar or 0.1 mg nicotine.

WAF/jig JUNE 18 1981

00014329

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000

7

0000144330

T S OSBENE

JUL 17 1981

Source: https://www.industrydocuments.ucsf.edu/docs/skhk0000